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ADMINISTRATIVE COUNTY OF ESSEX.

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REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR, 1920.

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County Medical Officer of Health.

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Chelmsford :

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## P R E F A C E .

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*To the Chairman and Members of the Public Health and Housing Committee  
of the Essex County Council.*

I have the honour to submit to you my second Annual Report on the sanitary conditions and administration of the various districts in the Administrative County for the year 1920. This is the thirty-first Report which has been issued.

At your special request, the present Report is brief, and, with the exception of the detailed report on small-pox, is sufficient only to maintain continuity of records. No comment upon, or extractions from, the reports of the local Medical Officers of Health, are included.

The outstanding features of the vital statistics for the year were the high birth-rate and low death-rate.

A most important step during the year was the introduction of the principle of Combined Medical Services in the Urban District of Clacton, and the Rural Districts of Tendring and Lexden & Winstree, whereby one medical man in each of these areas acts as local Medical Officer of Health, and also as Assistant County Medical Officer; in the latter capacity acting as Tuberculosis Officer, School Medical Inspector, Inspector of Midwives, etc. The experience gained has more than justified all expectations, and it is hoped to apply the same scheme as soon as possible in other parts of the County.

Steps have been taken to further develop the scheme for the prevention and treatment of Tuberculosis, and the reduction in mortality and incidence is more than ever encouraging. Nevertheless, the present economic outlook of the Country, will in all probability have an adverse influence on the Tuberculosis attack-rate and death-rate in the near future.

As regards Maternity and Child Welfare, the Ministry of Health have, from the 1st April, 1921, transferred the powers from 25 local Sanitary Authorities to the County Council. It is hoped shortly, to put into operation, a scheme linking up the Child Welfare work with the Tuberculosis and School Medical Services.

I desire again to record my high appreciation of the co-operation and counsel of yourself and the members of the Committee, during my second year of office particularly those who have taken the trouble to personally acquaint themselves with the health conditions in various parts of the County. My predecessor, Dr. Thresh, has continued to help me in every possible way, and I wish to record my hearty thanks to him, also to the Medical Officers of Health and other officials of local Authorities for their co-operation. My thanks are also due to the Medical, Dental Nursing, and Clerical Staffs, for their industry during the year.

Finally, I must mention my Chief Clerk and County Sanitary Inspector, Mr. A. Marsh, who has rendered most able assistance.

W. A. BULLOUGH,  
County Medical Officer

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31st May, 1921.

## PART I.

# NEWBURY AND DISTRICT COUNCILS DISTRICT.

## Population.

The population of the Administrative County at the Census in 1911 was 1,061,815, and the changes between 1911 and 1919 which occurred in the boundaries of Sanitary Districts have been enumerated in previous reports. No such alterations took place during 1920. The Registrar-General has again furnished separate figures in connection with the estimated populations for the year ended 31st December, 1920, namely :—

- (1) For calculating birth-rates, the figure, which includes civilian and military population, is ... .. 892,995
- (2) For calculating death-rates, the figure, which includes only civilian population, is ... .. 885,205

In most areas, a common population figure has been furnished, but for a few areas which contain an appreciable non-civilian population two figures were again submitted—hence the continuance of the above system.

A summary of the population figures is presented in the following table, but comment is not necessary in view of the proximity of the Census for 1921 :

TABLE I.

	Area in Acres.	Population.			Persons per acre.	Acres per person.
		Census 1911.	Estimate of population, 1920.			
			For Birth-rate.	For Death-rate.		
(Calculated on Census figures).						
Municipal Boroughs (5) ..	426,516	487,616	85,790	82,076	3·3	0·3
Urban Districts (25) ...	75,566	511,337	552,603	549,552	6·8	0·14
Rural „ (17) ...	862,744	258,955	254,602	253,577	0·3	3·3
	964,826	857,933	892,995	885,205	0·88	1·1

†Excluding East Ham and Southend-on-Sea Boroughs which seceded from the Administrative County after the Census for 1911.



## PHYSICAL FEATURES AND GENERAL CHARACTER OF THE DISTRICT.

Essex is one of the Metropolitan Shires; fifth of all the Administrative Counties in respect of the number of inhabitants in 1911. About one-half of the whole population of the County is centred in the south-western corner lying immediately adjacent to the Metropolis. The County in form is roughly a parallelogram measuring 48 miles from north to south and 63 from north-east to south-west.

In the County there are to be found populous urban areas, residential suburbs, wide agricultural districts, small manufacturing centres, residential seaside resorts, and a seafaring, fishing and dockside population.

### Birth-rate.

A large increase in the birth-rate for the Administrative County is recorded, namely, 23·6 (or 7·0 above the figure for 1919), the areas contributing mostly to this increase being Urban Districts of Tilbury (37·9), Harwich (31·1), Barking (30·8), Shoeburyness (30·6), Grays (25·1), and the Rural Districts of Tendring (27·4), Bumpstead (26·6), Chelmsford (26·2), Orsett (26·2), Ongar (25·3).

The lowest rates are recorded in the Urban Districts of Frinton (11·4), Brightlingsea (18·3), Saffron Walden Borough (18·6), Wanstead (19·0), and the Rural Districts of Halstead (17·7), Saffron Walden (19·4).

For particulars regarding each Sanitary District, see Table 2 of the Appendix.

### Death-rate.

The death-rate for the Administrative County has fallen to 10·6, which is the lowest figure recorded since the year 1912. A perusal of the Table below will reveal those areas showing the lowest and highest rates:—

Lowest Rate.		Highest Rate.	
<i>Urban</i> —Frinton	... 3·9	<i>Urban</i> —Tilbury	... 16·1
Loughton	... 6·6	Wivenhoe	... 13·5
Chingford	... 7·7	Brentwood	... 13·0
Buckhurst Hill	... 8·7	<i>Rural</i> —Ongar	... 15·5
Chelmsford B.	... 8·9	Belchamp	... 16·2
<i>Rural</i> —Romford	... 8·5	Tendring	... 13·7
		Dunmow	... 13·6

### Infant Mortality.

In the following table are set out the figures regarding the infantile mortality in each Sanitary District, and the general death-rate is also shown. Essex is to be congratulated on such a remarkably low infant mortality (58·9), the figure being over 50 per cent. less than it was in the year 1911.

The rate of infant mortality amongst illegitimates was 151.



TABLE II.

DEATH-RATE PER 1,000 POPULATION. DEATHS OF INFANTS PER 1,000 BORN.

SANITARY DISTRICT.	Birth-rate. 1920.	Death-rate.		Infantile Mortality.			
		1920.	1910-19 (Average).	1920.	1920.		1910-19 (Average).
					Legiti- mate.	Illegiti- mate.	
URBAN—							
Barking ... ..	30.8	12.7	13.3	81.7	79	320	102
Braintree ... ..	21.4	12.2	13.5	33.5	21	200	65
Brentwood ... ..	23.9	13.0	11.1	60.0	48	285	62
Brightlingsea ... ..	18.5	11.8	13.3	77.8	70	200	63
Buckhurst Hill ... ..	22.1	8.7	11.4	25.6	27	—	77
Burnham-on-Crouch ... ..	22.2	12.7	12.9	100.0	88	500	54
Chelmsford B. ... ..	20.8	9.0	11.4	55.4	55	52	75
Chingford ... ..	23.6	7.8	10.0	48.8	50	—	78
Clacton-on-Sea ... ..	20.5	10.8	12.7	37.7	30	117	80
Colchester B. ... ..	22.1	10.3	12.8	41.1	43	81	79
Epping ... ..	20.8	11.3	12.4	66.6	47	400	60
Frinton-on-Sea ... ..	11.4	4.0	8.1	—	—	—	55
Grays ... ..	25.1	12.8	11.5	104.3	100	174	82
Halstead ... ..	20.7	11.6	14.9	39.3	40	—	60
Harwich B. ... ..	31.1	11.6	12.1	75.7	72	181	86
Ilford ... ..	20.1	9.1	9.6	51.0	48	230	68
Leyton ... ..	24.5	10.3	11.6	65.3	63	112	82
Loughton ... ..	20.1	6.6	10.3	17.4	18	—	75
Maldon B. ... ..	24.2	10.4	14.0	40.8	42	—	75
Romford ... ..	22.8	9.4	12.0	45.8	40	230	81
Saffron Walden B. ... ..	18.6	11.8	14.0	84.9	88	—	58
Shoeburyness... ..	30.6	9.4	10.8	50.5	45	200	67
Tilbury ... ..	37.9	16.4	11.1	80.6	73	214	55
Waltham Holy Cross ... ..	21.7	10.2	12.1	20.2	14	166	81
Walthamstow ... ..	24.7	9.8	11.0	60.2	54	262	81
Walton-on-the-Naze ... ..	21.2	10.4	11.0	81.0	89	—	81
Waxstead ... ..	19.1	10.5	8.9	58.0	52	668	45
William ... ..	23.6	9.1	14.7	47.0	50	—	79
Wivenhoe ... ..	20.8	13.5	13.6	98.0	98	—	84
Woodford ... ..	22.9	10.4	10.0	40.5	23	166	63
RURAL—							
Belchamp ... ..	24.6	15.2	15.7	20.6	21	—	67
Billerica ... ..	21.2	11.3	12.1	43.9	39	150	59
Braintree ... ..	21.4	12.0	14.3	61.7	56	235	77
Bumpstead ... ..	26.6	12.4	15.0	51.7	57	—	78
Chelmsford ... ..	26.2	12.4	13.0	67.5	65	115	67
Dunmow ... ..	23.6	13.5	14.2	57.1	59	76	62
Epping ... ..	20.9	9.3	12.1	18.3	18	83	63
Halstead ... ..	17.7	11.1	13.5	34.5	34	—	64
Lexden and Winstree ... ..	22.6	10.6	13.4	35.5	37	—	67
Maldon ... ..	22.2	12.0	13.3	52.0	42	200	58
Ongar ... ..	25.3	15.5	13.3	105.6	107	77	69
Orsett ... ..	26.2	11.9	11.5	61.9	58	136	76
Rochford ... ..	23.5	11.8	12.6	60.8	54	181	66
Romford ... ..	23.5	8.5	10.7	64.4	62	142	69
Saffron Walden ... ..	19.4	11.6	13.8	61.8	63	—	67
Stansted ... ..	22.6	9.4	13.7	40.5	42	—	74
Tendring ... ..	27.4	13.7	13.2	47.8	50	41	80
Totals							
Rural ... ..	23.3	11.6	13.2	55.0	52	108	63
Urban ... ..	23.7	10.3	11.8	60.4	56	172	72
Administrative County	23.6	10.6	12.3	58.9	55	151	70

## SMALL-POX.

During the first six months of 1920 a mild outbreak of small-pox (31 cases 6 proving fatal) occurred in the South-western portion of the County, commencing in January with 3 cases. This is the largest outbreak recorded since the severe epidemic in 1902. The cases occurred in the following Sanitary Districts during the months shown :—

Sanitary District.	Jan.	Feb.	Mar.	Apl.	May.	June.	Total.
Grays Urban ...	1	—	6	5	—	—	12
Ilford Urban ...	—	1	—	—	—	—	1
Leyton Urban .	—	—	1	—	—	—	1
Tilbury Urban ...	—	1	1	—	—	—	2
Orsett Rural ...	2	—	2	4	—	—	8
Romford Rural .	—	—	—	4	—	3	7
Totals . .	3	2	10	13	—	3	31

Sixteen of the cases were treated at the Orsett Small-pox Hospital, and one at the Orsett Union (see Case No. 9); the remaining 14 were admitted to the Metropolitan Asylum Board's Hospitals at the special request of the Ministry of Health.

During the same period, according to information received, cases occurred in adjoining areas as follows :—London County 28, London Port 6, Middlesex 1, West Ham Borough 25, East Ham Borough 11, total 71, some of which were undoubtedly traceable to the sources at Grays and Tilbury. There were many other cases in different parts of the United Kingdom.

A summary of the cases which occurred in the Administrative County, with a brief description of each, is given below :—

Case No.	Date notified.	
1.	15-1-20.	The first case notified was a Grays resident (female aged 20) employed at Purfleet, who on the 27th December, 1919, visited the s.s. <i>Devanha</i> which arrived off Gravesend on the 24th December from Bombay. This vessel had called at the Ports of Aden, Suez, Port Said, Marseilles and Gibraltar on the voyage, and on the 12th December a steward developed the rash of small-pox: he was removed to the Denton hospital on the arrival of the ship on 24th December, 1919. Bombay was considered to be the place of infection.

Patient No. 1 had been vaccinated in infancy and the attack proved to be a mild one; she entered the Orsett Small-pox Hospital on 19th January and was discharged on 12th February.

This patient thus created two foci of infection at Grays and Purfleet, as well as coming into contact with persons whilst travelling to and from those centres. Fourteen contacts were traced, all of whom had been vaccinated or re-vaccinated, and these were kept under close observation for eighteen days.

Case No.	Date notified.
----------	----------------

- |    |          |   |
|----|----------|---|
| 2. | 26-1-20. | The second case was notified from the Orsett Rural District, being a stewardess, aged 41, from the s.s. <i>Melita</i> in Tilbury Dock, who was first admitted to the Orsett Union Infirmary on the evening of the 24th January as suffering from influenza. The Medical Officer diagnosed small-pox on the 26th and removed the patient on the same day to the Orsett Small-pox Hospital. The patient had been vaccinated in infancy. |
|----|----------|---|

It transpired that the s.s. *Melita*, which arrived at Tilbury from the East on the 24th January, had had 9 deaths on board during the voyage which were diagnosed as "Influenza," and military ratings suffering from presumed Influenza had been landed at Port Said, Gibraltar and Plymouth. The ship was therefore regarded as Influenza-infected only in respect to the precautions taken.

Two other male patients from the ship admitted to the Orsett Union Infirmary as suffering from influenza, together with the inmates of the same ward and the whole of the Union Staff, were treated as "contacts" and kept under observation accordingly. None of these contacts developed small-pox but curiously enough Case No. 9, who was said not to be a contact, but who refused re-vaccination, developed the disease on the 12th March, 1920, and became a direct source of infection for Case No. 13.

The Port of London Sanitary Authority were notified of the s.s. *Melita* being a source of infection.

- |    |          |   |
|----|----------|---|
| 3. | 29-1-20. | Further case of illness from s.s. <i>Melita</i> , being a linen-keeper (male), aged 45, sought admission at the Orsett Union Infirmary on this date; was examined in the ambulance and found to have well developed small-pox, whereupon he was promptly removed to the Orsett Small-pox Hospital.  |
| 4. | 9-2-20.  | Case notified from the Tilbury Urban District, being an East Ham child (male), aged 6, unvaccinated, who came on 30th January to stay with relatives in Tilbury, and whose father worked on the s.s. <i>Devanha</i> . The father died on 29th January from "influenza" and a sister of the child died at Joyce Green Hospital, Kent, on 1st February. |

The Medical Officer of Health first saw the child on the evening of the 7th February and found he had been ill for two or three days, and observed a faint morbiliform rash. He was removed to Orsett Hospital on the afternoon of the 10th February, as a severe case, and died on the 21st February.

Eight contacts, with one exception, a female, aged 86, were re-vaccinated and kept under observation.

Case No.      Date notified.

Information was subsequently obtained regarding cases outside the Administrative County, the infection of which was traceable to the *s.s. Devanka*.

5. 20-2-20. The next case, also unvaccinated, in the Administrative County was notified from the Ilford Urban District, being an Army Officer, aged 22, employed at Netley Hospital, who went home to Ilford on 14th February on 48 hours leave, became ill on 15th February, rash appeared on 18th February, and small-pox diagnosed on 20th February, when patient was removed to the Orsett Hospital as a moderately severe case.

The source of infection remained unknown, and it seemed quite unlikely that there was any connection between this case and the already established point of infection in the Grays and Tilbury area. Contacts were kept under close observation and no further cases occurred in Ilford.

6. 3-3-20. A further apparently extraneous case was notified on this date from the Leyton Urban District, being a school girl, aged 5 (unvaccinated). She travelled by train and tram to and from Woolwich on Sunday, 15th February, crossed the ferry and walked through the sub-way, but did not stay anywhere. She attended school in Leytonstone on Monday, the 16th February, was admitted to the West Ham Infirmary on 17th February, rash appeared on 1st March, was removed to Orsett Hospital on 3rd March, and died on 7th March.

Source of infection remained unknown. Contacts were kept under close observation and no further cases occurred in the Leyton Urban District.

7. 10-3-20. The next case occurred on this date at Grays, where the first case of this outbreak was notified, being the wife (aged 46) of a man "employed on board ship at Tilbury Docks." She had been vaccinated in infancy; became ill about 2nd March, rash appeared 9th March, admitted to Orsett Hospital 11th March as a severe case, where she died on 14th March. Prior to illness patient had not been from home for several months, except to do shopping in Grays.

Relatives and other known contacts were kept under close observation.

8. 11-3-20. The eighth case was also found at Grays on this date, being a married woman, aged 36, who was vaccinated in infancy. She is known to have visited Tilbury on 22nd February, but "did not enter any house," otherwise she had not been away from home for four weeks prior to illness. Rash appeared 9th March and patient was admitted to Orsett Hospital on 11th March as a mild case.



Case No.      Date notified.

Apart from the above-mentioned visit to Tilbury, no source of infection could be fixed upon.

9. 16-3-20.      The ninth case was that of a female, aged 18, vaccinated in infancy only, employed at the Orsett Union where Case No. 2 was first admitted. She had not been in contact with Case No. 2, but, nevertheless, was offered re-vaccination which she refused. She died on third day of disease before rash became vesicular, death having been certified as from measles complicating child-birth (premature). The confinement took place on the 12th March, the morbiliform rash simulating measles appeared on 13th March, and death took place on the 16th March. A recent case of measles in the Institution confused diagnosis, but when Case No. 13 developed small-pox the local Medical Officer of Health became convinced that Case No. 9 had died during the prodromal rash of small-pox. On the 27th April, 1921, the Registrar-General intimated that "as a result of correspondence with the Ministry of Health and the certifying practitioner, it had been decided to class this case as small-pox."

10. 23-3-20.      Tilbury Urban District contributed the tenth case, being an Engineer's apprentice, aged 17, who was vaccinated in infancy and who resided at an hotel. He became ill about the 18th March, rash appeared 22nd March, and was admitted to the Orsett Hospital on 23rd March as a mild case.

Patient had, prior to his illness, attended a dance at Grays, and the local Medical Officer of Health considered this to be the suspected source of infection.

11. 23-3-20.      On this date, also, two more cases were notified from Grays, namely:—

(a) Husband of Case No. 7, aged 47, vaccinated in infancy, re-vaccinated 11th March, 1920, and employed at Tilbury Docks. Became ill on 20th March, rash appeared 23rd March, and admitted to Hospital same day as a mild case.

12. 23-3-20.      (b) Schoolboy, aged 9, unvaccinated, residing four doors away from Case No. 11. Became ill about 17th March, rash appeared 19th March, and admitted to Orsett Hospital 23rd March, as a mild case. This case was found in school by the School Medical Inspector, who promptly consulted the local Medical Officer of Health and closed the school. The local Medical Officer of Health stated that this case had been mistaken for chicken-pox.

Case No.      Date notified

13. 28-3-20.      On this date occurred a case at Orsett, mother of Case No. 9, aged 56, vaccinated in infancy. Rash appeared 27th March, and admitted to Orsett Hospital on 23th March as a severe case and there died. Case No. 9 was the source of infection in this case.

14. 29-3-20.      Husband of Case No. 8, aged 37, unvaccinated, was the next case at Grays. He was employed as carter to a coal merchant up to 11th March and then in a coalyard. Became ill about 26th March, rash appeared 28th March and admitted to Orsett Hospital on 29th March as a severe case. This man belonged to the sect known as "Peculiar People," and the Medical Officer of Health says that "he disregarded all instructions and was careless and obstinate, making it very difficult for anyone to control his movements."

15. 29-3-20.      The son of Case No. 14, schoolboy, aged 13, unvaccinated, also became ill about the same time, rash appeared 27th or 28th March, and was admitted to Orsett Hospital as a mild case. This boy attended the same school as Case No. 12.

16. 1-4-20.      On this date commenced a purely localised outbreak of the disease in the parish of Corbets Tye in the Romford Rural District, as follows:—

(a) Schoolgirl, aged 4 years, unvaccinated, had not attended school for three weeks owing to closure for measles. Rash appeared 3rd April and admitted to Metropolitan Asylums Board Hospital, 4th April, as probably a mild case.

17. 1-4-20.      (b) Mother of Case No. 16, aged 37, vaccinated in infancy. Rash appeared 3rd April, and admitted to Metropolitan Asylums Board Hospital 4th April as a severe case.

It appears that on 24th March the local Medical Officer of Health was summoned to a suspected case of chicken pox in the home of Cases Nos. 16 and 17. He found that the patient had not been out of the village, had four good primary vaccination scars, vesicles were not numerous, nor severe, nor umbilicated, and the medical practitioner and himself felt justified in diagnosing chicken-pox. Later, an Inspector from the Ministry of Health advised that this case should be re-vaccinated. Eleven days later the Cases Nos. 16 and 17 occurred, and on 7th April (being 14 days after the occurrence of the above-mentioned case of chicken-pox) two more cases occurred, viz. :—

18. 7-4-20.      (c) Father of Case No. 16, aged 41, had no signs of vaccination marks, although said to have been vaccinated in infancy. Rash appeared 5th April and admitted to Metropolitan Asylums Board Hospital on 7th April as a severe case.

Case  
No.      Date  
         notified.

It was ascertained that this patient had been in Grays, Tilbury and Orsett a good deal in connection with his business as a dealer.

19. 7-1-20. (d) A youth, aged 17, employed as a labourer, who visited the house of Case No. 18, on or about 1st April, vaccinated in infancy. Rash appeared 7th April and admitted to Metropolitan Asylums Board Hospital 7th April as a very mild case.

3-4-20. On this date 5 cases of small-pox occurred at Grays in one family, as follows:—

	Member of family.	Age.	When vaccinated.	When rash appeared.	Attack.	When admitted to Hospital, M.A.B.
20.	Mother...	35	... Infancy	... 3-4-20	... Mild	... 3-4-20
21.	Father...	37	... "	... "	... "	... "
22.	Daughter	11	... 23-3-20	... "	... "	... "
23.	"	7	... "	... "	... "	... "
24.	"	5	... "	... "	... "	... "

A son of this family (Case No. 10), was admitted to Orsett Hospital on 23rd March.

25. 11-4-20. Three cases occurred in the Parish of Horndon-on-the-Hill in the Orsett Rural District, as follows:—

(a) Roadworker for Orsett Rural District Council, aged 69, vaccinated in infancy. Rash appeared 2nd April and admitted to Metropolitan Asylums Board Hospital, 11th April, as a mild case which had every appearance of chicken-pox. Inspector from Ministry of Health ordered removal to Small-pox Hospital. The source of infection remained unknown

26. 16-4-20. (b) Brother of Case No. 25, aged 60, also a roadman, vaccinated in infancy, and also on 10th April. Rash appeared 16th April and admitted to Orsett Hospital 17th April as a probably mild case, possessing a typical chicken-pox rash for first seven days, and small-pox rash appeared after vaccination. No rise of temperature on second rash.

27. 19-4-20. (c) Wife of Case No. 25, aged 61, vaccinated in infancy and on 10th April, 1920. Rash appeared 19th April and admitted Orsett Hospital 21st April as a mild case, possessing a typical chicken-pox rash. Second rash developed about seven days after very few true small-pox spots. No temperature.



Case No.      Date notified.

28. 18-4-20.      A case was notified on this date in Little Thurrock (Orsett Rural District) of a girl, aged 19, engaged in housekeeping, unvaccinated. Rash appeared 18th April and admitted to Orsett Hospital on 19th April as a severe case, where she died on 27th April.

This patient had attended two dances in Grays the week previous and it was suspected that this was the source of infection.

The last three cases, which occurred in Dagenham in the Romford Rural District, were as follows :—

29. 7-6-20.      (a) Married woman, age 27, vaccinated in infancy, rash appeared 31st May and admitted to Metropolitan Asylums Board Hospital on 7th June. Source of Infection unknown. Had been diagnosed as chicken-pox and was not seen by local Medical Officer of Health until six days after rash appeared.
30. 13-6-20.      (b) Daughter of Case No. 29, aged 9 months, vaccinated 7th June, 1920, rash appeared 13th June and admitted to Metropolitan Asylums Board Hospital on 8th June as a severe case.
31. 18-6-20.      (c) Female child, aged 2 years, living in same house as Case No. 29, vaccinated 7th June, rash appeared 18th June and admitted to Metropolitan Asylums Board Hospital on 18th June as a mild case.

A contact of these cases, namely, a visitor from the Borough of East Ham, was missed, and subsequently developed small-pox.

Evidence is contained in the above descriptions of the cases to show that, with the exception of Cases Nos. 5 and 6 which occurred at Ilford and Leyton, the sources of infection were common and centred around the Port of Tilbury, viz., from the *s.s. Devonha* and *s.s. Melita*, and cases directly infected from such steamships in turn became either direct or indirect sources of infection for the remaining cases.

The local Medical Officers of Health most directly concerned in this outbreak viewed with alarm the large number of unvaccinated persons in their districts, and in this connection the following summary relating to those infected in this outbreak is of interest :—

		No. of Cases.	No. of Deaths.
(1)	Vaccinated :		
	(a) In infancy only	... 16	... 3
	(b) Doubtful	... 1	... —
	(c) Recent vaccination	... —	... —
(2)	Unvaccinated	... 13	... 3
(3)	No information	... 1	... —
		<hr/> 31	<hr/> 6

The eagerness with which large numbers voluntarily sought re-vaccination during this outbreak shows that large sections of the community who under normal circumstances demand exemption from vaccination recognised the value of such a preventive measure when brought face to face with the actual disease.

Prompter diagnosis in one or two instances might have been the means of avoiding further cases. It was with a view to meeting such a difficulty that in May, 1920, the Essex County Council made an arrangement with the London County Council whereby the services of Dr. Wm. McConnell Wanklyn were placed at the disposal of any Medical Officer of Health in the Administrative County upon application to the County Medical Officer. Dr. Wanklyn's services were utilised on numerous occasions with considerable help to all the Medical Officers concerned. It is undoubtedly a source of considerable satisfaction that the London County Council have continued to loan the services of such an experienced man as Dr. Wanklyn for any suspected case of small-pox in the County of Essex.

At one time there seemed every prospect of a very severe epidemic, and that this was averted is very largely due to the alertness and vigilance of the local Medical Officers of Health, Medical Practitioners, and Sanitary Inspectors concerned. The magnitude of their work will be realised when it is remembered that this included the isolation of actual cases, disinfection of infected homes and clothing, tracing and keeping under observation all contacts, vaccination and re-vaccination of a large number of people, and the dissemination of information in regard to the usual precautionary measures.

The manner in which the Medical Officer, Matron and Staff of the Orsett Hospital coped with the work of treating the patients is deserving of all praise.

Experience in this small-pox outbreak brought to light one or two outstanding points which may be summarised as follows:-

- (1) It was imported into this country and was disseminated from several ports.
- (2) It commenced in a part of the County where (as usual) a great proportion of the community were unprotected by either vaccination or recent re-vaccination.
- (3) It revealed the importance of maintaining the widest possible circulation of particulars of cases and contacts amongst local Medical Officers of Health and Medical Officers of Health of adjacent Counties.
- (4) It was largely responsible, in spite of all the activities of health officials, for the 101 patients who developed the disease in recognisable form in the infected area in and around London.
- (5) It revealed the need for the closest liaison between the Port Sanitary Authority and the local Sanitary Authorities, particularly at Tilbury, which is one of London's most important ports, at which

passengers disembark from the East where cholera, plague, small-pox, and similar diseases are endemic. It has already been recommended that a whole-time Medical Officer of Health should be appointed for the Orsett Union, preferably on the basis of the combined medical service which has been established in North Essex.

- (6) It proved the need for the ready availability of the services of a small-pox specialist, *e.g.*, two local medical men in consultation diagnosed one or two of the cases as chicken-pox, whilst other cases were diagnosed as measles and influenza. The arrangement with the London County Council whereby the services of Dr. McC. Wanklyn are available should obviate this in future.
- (7) It revealed evidence that missed cases of small-pox of a mild nature must have been a factor in passing on the disease from one person to another.
- (8) It again emphasised the need for periodic re-vaccination if immunity is to be established.
- (9) It showed how essential it is that the households attacked should carefully and accurately give particulars of all recent visitors, *e.g.*, one contact was missed entirely in this way and developed the disease in a populous centre in the extra-metropolitan area.
- (10) It showed that by using motor ambulances patients can without hardship be conveyed considerable distances to hospital, *e.g.*, patients were conveyed to Orsett from West Ham, a distance of about 18 miles. Consequently, fewer small-pox hospitals would serve the needs of a county like Essex, reduce the number of centres of infection, and be economical without loss of efficiency and sufficiency.

At the close of the year another case occurred in the Administrative County, *viz.*, at Harwich, on 20th December. This patient (a ship's cook) had disembarked from a Union Castle liner at Southampton early in December, and proceeded to Harwich on the 8th December. The source of infection was unknown and no further cases occurred.

On the 28th December information reached the County Medical Officer to the effect that a patient who resided at Southend, and who worked in Chelmsford, had been taken ill at Hampstead and was, on the 28th December, found to be suffering from small-pox. Communications were addressed to the local Medical Officers of Health concerned and the necessary action taken in regard to contacts, etc. The source of infection was unknown and no further cases occurred.

**SOUTH-WEST ESSEX.** Protracted negotiations took place between the County Council, Ministry of Health, West Ham Borough and the Orsett Joint Hospital Board in connection with the provision of accommodation necessitated by the County Council's application for an Order under Section 2 of the Public Health (Prevention

and Treatment of Disease) Act, 1913, with a view to obtaining powers to arrange for the treatment of persons affected with small-pox in the South-West Essex district.

Tentative arrangements were made with the Orsett Joint Hospital Board, under which they agreed to receive sporadic cases from South-West Essex area up to a maximum of 20 cases. The Local Authorities affected by the outbreak in the first six months of the year took advantage of this arrangement until the Ministry of Health ruled that the Orsett Hospital in its present condition was capable of accommodating 10 cases only. In consequence, subsequent cases were admitted by the Ministry's special request to the hospitals of the Metropolitan Asylums Board.

On the 17th May, 1921, the County Council decided to withdraw the above-mentioned application for an Order, leaving the responsibility for providing Small-pox Hospital accommodation with each Local Sanitary Authority in South-West Essex.

### SEWAGE WORKS AND RIVER POLLUTION.

On 1st November, 1920, the County Council renewed the agreement with Drs. Thresh and Beale, of 91, Queen Victoria Street, London, E C. 4, whereby the latter agree to carry out two inspections annually of the river Roding, and to collect, examine and report upon all samples taken; also to examine and report on all samples of river water and effluent collected by or for the County Medical Officer from other sources.

Under this agreement, the sewage works which discharge into the river Roding were inspected on the 13th May and 26th October, 1920, when 29 samples of river water and sewage effluent were collected. The results of the examinations were classed as passable with two exceptions, in which cases suitable communications were addressed to the Local Authorities concerned.

22 inspections were also made of the sewage works in the remaining parts of the County, where 31 samples were taken. Of these, 9 were classed as good or passable, and 22 as bad. In the latter cases, appropriate action was taken.

### COUNTY LABORATORY.

The excellent work carried out by this laboratory was continued throughout the whole year and the following table shows the number of specimens submitted for examination from each Sanitary District. It will be seen that 6,295 specimens were dealt with during the year, and it should be recorded that the County Council have renewed the arrangement with Dr. J. F. Beale, Essex County Laboratory, 91, Queen Victoria Street, London, E C. 4 (telephone number City, 7116) for a further period of 12 months.

All bacteriological specimens from hospitals, dispensaries, general practitioners, etc., with the exception of Asylums, are dealt with at this laboratory, and their number is increasing each quarter.



TABLE III.

EXAMINATION OF BACTERIOLOGICAL SPECIMENS—YEAR 1920.

SANITARY DISTRICTS.	Diph- theria.	Sputa.	Typhoid	Ring- worm.	Malaria.	Cerebro- Spinal Fluid.	Miscell- aneous.	TOTAL.
URBAN—								
Barking ...	636	176	6	—	—	2	2	822
Braintree ...	77	58	2	2	—	—	1	170
Brentwood ...	135	58	3	—	—	—	12	208
Brightlingsea ...	15	8	3	—	2	—	—	28
Buckhurst Hill ...	8	1	—	—	—	—	—	9
Burnham-on-Crouch ...	2	1	1	—	—	1	—	5
Chelmsford B. ...	177	144	—	16	—	2	1	340
Chingford ...	53	24	4	—	—	—	3	84
Clacton-on-Sea ...	82	37	2	1	—	—	—	122
Colchester B. ...	21	81	6	9	—	—	1	118
Epping ...	106	31	—	—	2	—	1	140
Frinton-on-Sea ...	—	3	—	—	—	—	—	3
Grays ...	179	103	4	—	—	3	2	291
Halstead ...	113	45	—	5	5	—	3	171
Harwich B. ...	68	38	4	1	1	—	1	113
Ilford ...	53	275	4	—	—	15	2	319
Leyton ...	270	631	1	63	1	—	5	971
Loughton ...	—	7	—	—	—	—	2	9
Maldon B. ...	70	37	4	—	—	3	—	114
Romford ...	176	67	2	—	—	—	2	247
Saffron Walden B. ...	—	3	—	2	—	—	—	5
Shoburyness... ..	8	8	1	—	1	—	—	18
Tilbury ...	6	6	—	—	—	—	—	12
Waltham Holy Cross ...	4	15	—	—	—	—	—	19
Walthamstow ...	18	659	6	1	6	—	5	695
Walton-on-the-Naze ...	2	—	1	—	2	—	—	5
Wanstead ...	7	19	—	—	—	—	1	27
Witham ...	9	18	—	—	2	—	2	31
Wivenhoe ...	8	4	—	—	—	—	—	12
Woodford ...	61	22	1	—	—	—	3	87
RURAL—								
Belchamp ...	—	2	—	—	—	—	—	2
Billericay ...	216	21	1	1	—	—	—	239
Braintree ...	12	12	—	2	—	—	2	28
Bumpstead ...	—	5	—	—	—	—	—	5
Chelmsford ...	40	50	1	1	—	1	1	94
Dunmow ...	21	17	2	4	—	—	1	45
Epping ...	62	19	1	—	1	—	—	83
Halstead ...	6	13	5	—	2	1	1	28
Lexden and Winstree ...	38	12	3	2	—	—	—	55
Maldon ...	69	23	2	—	—	—	—	94
Ongar ...	53	11	—	—	—	—	4	68
Orsett ...	132	3	—	—	—	—	1	136
Rochford ...	21	39	5	2	—	—	—	67
Romford ...	45	9	1	—	—	—	—	55
Saffron Walden ...	1	5	—	4	—	—	—	10
Stansted ...	35	2	—	7	—	—	—	44
Tendring ...	1	8	4	3	—	—	1	17
Rural ...	752	251	25	26	3	2	11	1070
Urban ...	2364	2609	55	100	22	26	49	5225
Total for County ...	3116	2860	80	126	25	28	60	6295

## HOUSING.

Although the provision of houses is very largely in the hands of the local Sanitary Authorities, it is considered advisable to make a brief reference to the subject. At the time of writing only 29 out of 47 reports and returns have been received from Local Medical Officers of Health, so that it is not possible to include in this report what would have been an interesting table showing the position regarding housing in the Administrative County.

It should be recorded, however, that in the 29 districts from which reports and returns have been received 836 houses were erected either by the local Sanitary Authorities or by private persons and about 850 were in course of erection at the end of 1920. These figures prove that there has been considerable activity throughout the County in the endeavour to overtake the ever increasing demand for housing accommodation. In the Rochford Rural District alone 379 houses were erected by private individuals during the year, very largely in the parishes of South Benfleet and Canvey Island.

The greatest housing development in the County took place under the London County Council Housing Scheme at Becontree, where, at the time of writing, no less than 1,441 houses (excluding those mentioned above) are in course of erection, but it is understood that the Ministry of Health have already called the London County Council's attention to the necessity, in the present financial conditions, of reducing the number of houses to be erected under the scheme of Assistance to Local Authorities and Public Utility Societies. The extent to which such reduction should take place is being considered by the Ministry of Health. The pendulum seems now to have swung in the other direction, and the tendency would appear to be for Local Authorities to be discouraged rather than encouraged to proceed with a complete housing scheme. Local Authorities are also faced with the necessity of re-considering the whole of their housing needs. The late war brought about a considerable re-distribution of the population, necessitating the aggregation of large numbers of people at munition centres. Since the signing of the Armistice this re-distribution has operated in the opposite direction, upsetting all the calculations on which housing schemes were based in many districts. Other local Sanitary Authorities have now decided that until the present high cost of building is very much reduced they do not intend to proceed further with their housing schemes.

As was to be expected, the overcrowding problem was by no means got rid of during the year 1920, even with the erection of many new houses and the reconstruction of existing dwellings. In many districts it was necessary to again encourage householders to convert parlours into bedrooms, and this to some extent mitigated the overcrowding of the sleeping apartments.

As regards housing accommodation to be provided by the County Council during the year 1920 for smallholders, police, etc., the County Architect has kindly furnished the following information:—28 houses are already completed, 2 houses are near completion, 46 houses are in course of erection, and 41 houses are yet to be commenced.

# SALE OF FOOD AND DRUGS ACTS, 1873-1899.

The supervision of the duties under these Acts performed by the Weights and Measures Inspectors, who also act as Food and Drugs Inspectors, is not undertaken by the County Medical Officer. Dr. Bernard Dyer, the County Analyst, has, therefore, kindly furnished the following particulars of the work done during the period 1st December, 1919, to 30th November, 1920. It will be noted in the following table that the samples have been submitted from three sources, namely, County Inspectors, Local Sanitary Authorities and Private Purchasers:—

	Samples Analysed.	Samples Unsatisfactory.	Percentage of adulteration.
Northern District of the County...	685	25	3.8
Southern District of the County ...	929	26	2.8
Metropolitan District of the County ...	1219	66	5.4
Chingford Urban District Council	13	—	4.3
Romford Urban District Council..	1	—	
Wanstead Urban District Council	1	—	
West Ham Union ...	23	—	
Woodford Urban District Council	7	1	
Private sample ...	1	1	
	2879	119	4.2

	Samples analysed.	Samples unsatisfactory.
Baking Powder	52	—
Beef Fat	1	—
Bread	16	1
Blanc Mange	1	—
Bun Flour	7	—
Butter	256	7
Cake Flour	5	—
Cheese	20	—
Cinnamon, Ground	4	—
Cloves, Ground	3	—
Cocoa	20	—
„ Milk	1	—
„ Mixture	2	—
„ Powder	—	—
„ Shells	1	—
Coffee	35	—
„ and Chicory	—	—
Corn Flour	1	—
Cream	23	17
„ Preserved	4	—
Cream Custard	6	—
„ Mould	1	—
„ Powder	3	1
Creamettes	1	—
Custard Powder	11	—
Dripping	17	1



Samples  
analysed.Samples  
unsatisfactory.

## Drugs:—

Boracic Ointment	...	...	...	4	...	—
Borax	...	...	...	35	...	19
„ Commercial	...	...	...	1	...	1
Camphorated Oil	...	...	...	13	...	1
Castor Oil	...	...	...	1	...	—
Chlorodyne Lozenges	...	...	...	1	...	—
Citric Acid	...	...	...	1	..	—
Compound Syrup of Figs	...	...	...	1	...	—
Cream of Tartar	...	...	..	4	...	—
Epsom Salts	...	...	...	29	...	—
Glycerine	..	...	...	3	...	—
Liquorice Powder	...	...	...	2	..	—
Paragoric	...	...	...	6	..	—
Tartaric Acid	...	...	...	2	..	—
Egg, Dried	...	...	...	1	...	—
„ Powder	...	...	...	17	...	—
„ Substitute	...	...	...	15	...	—
Fish Paste	...	..	...	5	...	—
Gin	...	...	...	1	...	—
Golden Syrup	...	...	...	1	..	—
Gravy Salt	...	...	...	1	...	—
Honey	...	...	...	1	...	—
Honey Sugar	...	...	...	1	...	—
Jam	...	...	..	20	...	—
Jelly Powder	...	...	...	1	...	—
Lard	...	...	...	260	...	—
„ Compound	...	...	...	5	..	—
„ Substitute	...	...	...	6	...	1
Lemon Cheese	...	...	...	2	...	—
Lemon Curd Powder	...	...	...	1	...	—
Lemonade Powder	...	...	...	2	...	—
Linseed, Crushed	...	...	...	15	...	—
Margarine	...	...	...	474	...	1
Marmalade	...	...	...	1	...	—
Meat Extract...	...	...	...	3	...	—
„ Potted	...	...	...	1	...	—
Milk	...	...	...	1272	...	63
„ Concentrated	...	...	...	2	...	—
„ Condensed	...	...	...	10	...	—
„ Evaporated	...	...	...	1	...	—
„ Separated	..	..	...	1	...	—
„ Skimmed	...	...	...	5	...	1
Milk Powder	...	...	...	1	...	1
Mincemeat	...	...	...	1	...	—
Mustard	...	...	...	10	...	—
„ Compound	...	...	...	2	..	—
„ Mixture	...	...	...	3	...	—
Nutmeg, Ground	...	...	...	5	...	—
Pea Flour	...	...	...	2	...	—
Pearl Barley	...	...	..	1	...	—
Pepper	...	...	...	30	...	—
Raspberry Cream	...	...	...	1	...	—
Rice, Ground	..	...	...	1	...	—
Sausage	...	...	...	1	...	—

					Samples analysed.	Samples unsatisfactory.
Self-raising Flour	...	...	..	..	21	2
Sherbet	...	...	...	...	1	—
Suet	...	...	...	...	1	—
„ (Beef) (and Rice Flour)	...	...	...	...	1	—
Sugar	...	...	...	...	3	—
„ Substitute	...	...	...	...	4	—
Sweetmeats	...	...	...	...	10	—
Syrup	...	...	...	...	1	—
Tea	...	...	...	...	3	—
Vinegar	...	...	...	...	46	2
Wine, Non-alcoholic	...	...	...	...	4	—
„ Tarragona	...	...	...	...	1	—
Yeast	...	...	...	...	3	—
					<hr/> 2879	<hr/> 119

Particulars relating to samples reported on during the whole year as adulterated or unsatisfactory.

A sample of Bread sent on account of the presence of a foreign substance contained the mashed up fag end of a cigarette so embedded in the bread as to indicate that the cigarette was obviously dropped into the dough.

Seven samples of Butter contained margarine in proportions varying from 25 to 55 per cent.

Seventeen samples sold as Cream consisted of "Preserved Cream" containing from 0.15 to 0.40 per cent. of boric acid (undeclared).

One sample of "Cream Powder" (*i.e.*, cream of tartar substitute) contained 47 per cent. of calcium sulphate.

One sample of Dripping contained 7.5 per cent. of water, being 6.5 per cent. in excess of the water in normal dripping, but the excess appeared to be "gravy" from the meat. It was said to be domestically prepared dripping.

Nineteen samples of Borax purchased as drugs contained from 20 to 140 parts of arsenic per million; the British Pharmacopœia limit being 5 parts per million. One sample of Commercial Borax contained 100 parts of arsenic per million.

One sample of Camphorated Oil contained less than three-fourths of the proper proportion of camphor, and was made with paraffin oil instead of vegetable oil.

One sample of Lard Substitute contained 6.5 per cent. of water.

One sample of Margarine contained an excess of boric acid (0.75 per cent. instead of not over 0.50 per cent.)

Thirty-one samples of Milk contained added water:—

14 samples	contained	5 per cent. or less.
8	„	6 to 10 per cent.
1 sample	„	12 per cent.

4 samples contained 16 to 20 per cent.

3       "       "       21 to 25       "

1 sample       "       48 per cent.

One sample consisted of milk already half skimmed, mixed with an equal bulk of water.

Thirty-one samples of Milk were deficient in fat. The percentage of deficiency compared with the minimum normal quantity in genuine milk being :—

In 5 cases 6 to 10 per cent.

„ 10   „ 11   „ 15   „

„ 5   „ 16   „ 20   „

„ 2   „ 21   „ 25   „

„ 4   „ 26   „ 30   „

„ 2   „ 31   „ 36   „

„ 1 case 48 per cent.

„ 1   „ 55   „

„ 1   „ 80   „

One sample sold as skim milk consisted of whole milk mixed with 7 per cent. added water.

One sample of "Milk Powder" consisted of powder made from separated milk deprived of more than 95 per cent. of its fat.

Two samples of Self-raising Flour contained an objectionable quantity, viz., 0.7 per cent. and 0.8 per cent. of calcium sulphate.

Two samples of Vinegar were deficient in strength to the extent of 10 and 22 per cent. of the proper minimum strength.

Out of 256 samples of Butter 188 contained boric acid preservative. In only 11 cases did the quantity reach 0.5 per cent. of boric acid. In 26 cases the quantity was from 0.5 to 0.4 per cent. In the remaining 151 cases the quantity did not exceed 0.25 per cent., and in 82 of these was only 0.15 per cent. or less.

Out of 474 samples of Margarine, 455 contained boracic preservative. In 1 solitary case there was 0.75 per cent. of boric acid. In no other case was 0.5 per cent. exceeded. Only 2 samples gave 0.5 per cent., 83 samples from 0.3 to 0.4; in 369 cases the quantity did not exceed 0.25 per cent., and in 170 of these it did not exceed 0.15 per cent.

#### ISOLATION HOSPITALS.

In the last Annual Report were set out all the points to which special attention is directed at each annual inspection of the Isolation Hospitals to which grants are given by the County Council.

The usual inspections were again carried out in April, 1921, prior to which the information set out in Table IV. (page 26) was asked for from the Clerks to the Hospital Boards.

"	1917	...	17,537	308	7	141	55	511	3353	3037	553
---	------	-----	--------	-----	---	-----	----	-----	------	------	-----

Total	3057
Numl	3353
Grant	3353
Cases:	3353
S	511
I	511
T	55
*C	55
Total	141
Nursi	7
Expen	308
I	308
I	308
S	308
I	308
I	308
Cost	17,637
Cost	...
	1917
	"

TABLE IV.

Shewing Accommodation, Number of Cases treated, Cost per Bed, etc., at those Isolation Hospitals, to which Grants were made for the Year ended 31st March, 1921.

	Billericay.	Braintree.	Chelmsford.	Clacton.	Colchester. †	Dunmow.	Grays and Orsett.	Halstead.	Ilford.	Maldon.	Rochford.	Romford. †	Saffron Walden.	Walthamstow	Waltham Joint.
Total number of Beds in Hospital ..	22	11	21	17	200	8	20	16	85	10	24	70	22	93	42
Number for purpose of Grant ..	22	8	21	17	58	8	20	16	72	10	12	42	14	..	42
Grant from County Council ..	£110	£40	£115	£85	£300	£40	£100	£80	£370	£60	£60	£220	£70	£465	£220
<i>Cases treated during year:—</i>															
Scarlet Fever ..	..	38	57	22	..	23	71	2	248	37	86	..	14	455	..
Diphtheria ..	..	12	33	47	..	5	152	14	202	12	16	..	3	249	..
Typhoid ..	..	2	..	..	..	1	4	..	..	..	7	..	..	..	..
*Other Diseases ..	..	..	7	..	..	..	69	37	98	2	..	..	..	1	..
Total number of cases treated ..	129	52	97	69	412	29	296	53	548	51	109	..	17	705	248
Nursing Staff ..	..	2	8	2	21	2	13	3	22	5	2	..	1	28	6
<i>Expenditure for the year:—</i>															
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Repayment of Loans ..	194 16 2	123 11 2	334 10 5	150 6 3	573 11 0	261 5 9	321 6 7	64 0 0	1124 11 9	220 0 0	134 0 0	..	198 16 9	1719 17 7	673 8 8
Interest on Loan ..	172 11 10	16 18 10	129 2 8	61 0 7	243 18 11	48 4 6	186 12 6	73 5 3	424 17 7	100 0 0	46 3 4	..	117 19 1	524 16 3	..
Structural Repairs ..	849 11 7	122 5 8	411 19 6	25 0 0	..	18 12 2	403 10 0	147 5 7	2021 11 10	285 0 0	57 16 4	..	50 0 6	904 11 5	692 9 8
Food (Patients and Staff) ..	1665 1 11	405 2 10	441 10 1	180 0 0	..	190 18 10	3346 8 2	1035 11 4½	3936 15 1	584 15 2	283 16 2	..	169 7 3	5862 18 6	543 16 0
Estab. and Pats. Expenses ..	889 12 5	980 14 2	539 6 3	668 0 0	..	636 4 3	2508 18 9	1699 19 1	10264 2 5½	1464 8 10	770 18 5	..	446 10 0	11865 5 1½	2229 5 10
	£ 3771 13 11	1648 12 8	1856 8 11	1084 6 10	..	1155 5 6	6766 16 0	3020 1 3½	17771 18 8½	2654 4 0	1292 14 3	..	982 13 7	20877 9 1	4138 18 2
Cost per bed ..	171 8 9	149 17 6	88 8 1	63 15 8	..	144 8 2	338 6 9	188 15 1	209 1 7	265 8 5	53 17 3	..	44 13 4	224 9 9	98 10 10
Cost per case treated ..	29 4 9	31 14 1	19 2 9	15 14 3	..	39 16 9	22 17 2	56 19 8	32 8 7	52 0 10	11 17 2	..	57 16 1	29 12 2	16 13 9
.. year 1919-20 ..	21 0 8	51 7 6	17 2 1	12 15 2	20 1 0	26 0 6	29 14 2	20 9 2	32 1 2	37 5 0	17 6 7	18 10 4	102 17 5	36 2 1½	21 14 5

\*In some instances the figures relating to tuberculosis cases treated under the County Council scheme are included.  
†Particulars had not been received on going to print.



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# VENEREAL DISEASES.

In the following table are given particulars of the work which at the various London and other Hospitals during the year 1920. very little change in the list of Treatment Centres which was published in the Annual Report:—

TABLE V.  
SHOWING TREATMENT CENTRES AND NUMBER OF PATIENTS TREATED DURING 1920

Treatment Centre.	Patients from all Areas. Total Number treated for first time	ESSEX PATIENTS.							In- patient. Days.	Doses of Salvarsan	
		Total Number treated for first time suffering from					Total Attend- ances. No.	Out-pa- tients.		In-pa- tients.	
		Syphilis.	Soft Chancre.	Gonorr- hoea.	Not V.D.	Total.					
London Hospitals ...	29,991	392	19	443	237	1091	12386	2924	—	—	2162
St. Bartholomews Hospital, London ...	1,053	10	—	12	3	25	100	20	90	—	90
Chelmsford ...	35	16	2	12	5	35	79	14	40	—	40
Colchester ...	128	65	6	29	23	123	931	478	503	13	516
Ipswich ...	438	15	1	7	9	32	209	101	87	5	92
Southend ...	252	19	—	7	5	31	562	—	91	—	91
Total for 1920 ...	31,897	517	28	510	282	1337	14267	3537	—	—	2993

## MENTAL DEFICIENCY ACT, 1913.

During the year, 93 cases were examined by the County Medical Staff under the Mental Deficiency Act, 1913, at the request of the Local Control Authority, and reports and advice given on each individual case.

Many of these cases entailed two examinations, viz., the first for diagnosis, and the second for the purpose of signing the statutory certificate when a petition is being presented for institutional control; further, a member of the Medical Staff has attended and given evidence when necessary at the hearing of petitions before the magistrates.

The majority of the cases were seen by Dr. T. P. Puddicombe, who was appointed in April, 1920, as Assistant County Medical Officer, and one of whose duties is to deal especially with mentally defective cases both in the child and adult.

By this arrangement medical evidence is available for the County magistrates on the mental condition of doubtful cases charged with criminal offences.

## PART II. TUBERCULOSIS.

TABLE VI.

SHOWING NUMBER OF DEATHS FROM TUBERCULOSIS IN ENGLAND AND WALES  
AND ESSEX DURING THE YEARS 1911--1920.

Year.	Pulmonary.		Non-Pulmonary.		Total.	
	Essex.	England and Wales.	Essex.	England and Wales.	Essex.	England and Wales.
1911	939	39232	332	13888	1271	53120
1912	922	38083	288	11908	1210	50051
1913	900	37055	323	12421	1223	49476
1914	870	38637	233	11661	1103	50298
1915	802	41050	266	12512	1068	53562
1916	762	40747	237	12151	999	52898
1917	888	42152	224	12609	1112	54761
1918	920	44971	231	11733	1151	56704
1919	715	36662	205	9650	920	46312
1920	573	†	174	†	747	†

The figures for 1915 onwards relate to civilians only.  
†Not available at time of printing.

## Deaths.

As was expected, the number of deaths from tuberculosis in the administrative County during the year 1920 is less than for the year 1919, being 747 and 920 respectively. This is, however, still the highest mortality of any of the specific diseases, though there is every indication that, should the present rate of decrease be maintained, the time is not far distant when the mortality from this disease will have been reduced by 50 per cent. since the disease became notifiable in 1911.

## Notifications.

The outstanding feature of the following Tables is that the total number of cases of tuberculosis (all forms) notified during the year 1920 was 478 less than the number for the previous year. This decrease is shown in 17 Urban and 10 Rural Districts, whilst in the remaining parts of the County there has either been a slight increase, or the figure is the same as for the year 1919. It would seem therefore that whatever the cause may be it is fairly general throughout the County, and may be indicative of a less incidence of the disease. In favour of this view is the fact that there has also been a marked decrease in the number of deaths from tuberculosis—see previous table.

TABLE VII.

SHOWING SUMMARY OF NOTIFICATIONS OF TUBERCULOSIS IN ESSEX DURING THE PERIOD FROM THE 4TH JANUARY, 1920, TO THE 1ST JANUARY, 1921.

Age periods	Notifications on Form A.												Total Notifica- tions on Form A.
	Number of Primary Notifications.												
	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and upwards	Total Primary Notifications	
Pulmonary Males	1	3	26	17	54	19	102	69	58	27	10	416	419
„ Females	—	5	17	29	69	66	83	52	35	8	9	373	397
Non-pulmonary Males	5	16	25	18	15	10	9	9	6	1	1	115	118
„ Females	3	17	16	20	25	19	14	10	1	2	3	130	133
1920 Totals	9	41	84	84	163	114	208	140	100	38	23	1054	1097
1919 Totals	12	83	158	119	150	138	295	206	109	61	14	1535	1410

Age periods ...	Notifications on Form B.					Number of Notifications on Form C.	
	Number of Primary Notifications.				Total Notifications on Form B.	Poor Law Institutions.	Sanatoria.
	Under 5	5 to 10	10 to 15	Total Primary Notifications.			
Pulmonary Males ...	—	5	6	11	11	15	125
„ Females ...	—	4	—	4	4	14	150
Non-pulmonary Males ...	—	4	5	9	9	1	21
„ Females ...	3	2	2	7	9	—	17
1920 Totals ...	3	15	13	31	33	30	313
1919 Totals ...	—	17	10	29	29	72	410

### Dispensaries and Visiting Stations.

At the conclusion of 1920, the Dispensaries and Visiting Stations enumerated below were open and under the charge of the Tuberculosis Officers named in column 3:—

- (1) BRAINTREE ... *Tuberculosis Officer* ... H. V. Crossfield, M.B., C.M.  
*Sanatoria* ... Black Notley, Halstead and Sible Hedingham.  
*Dispensaries* ... Braintree, Co-operative Buildings, Wednesdays, 11.30 a.m. to 1 p.m.  
Dunmow, 18, Mount Pleasant Terrace, The Causeway, 1st & 3rd Tuesdays each month, 10.30 to 11.30 a.m.  
Halstead, 43, North Street, 1st & 3rd Thursdays each month, 12.15 to 1.15 p.m.  
Saffron Walden, The Adult School Room, High Street, 1st & 3rd Tuesdays each month, 12.30 to 2.30 p.m.
- (2) COLCHESTER ... *Tuberculosis Officer* ... J. D. Macfie, M.B., Ch.B.  
*Sanatorium* ... Colchester.  
*Dispensary* ... Colchester, St. John's Street, Wednesdays, 10.30 a.m. to 12.30 p.m., Saturdays, 11 a.m. to 1 p.m.
- (2a) CLACTON ... *Tuberculosis Officer* ... \*W. A. Milne, M.B., Ch.B., D.P.H.  
*Dispensary* ... Clacton, Skelmersdale Road, Fridays, 11 a.m. to 12 noon.
- (2b) HARWICH. ... *Tuberculosis Officer* ... \*J. Ramsbottom, M.B., Ch.B., D.P.H.  
*Dispensary* ... Harwich, c/o Mr. Woodward, Corner Chemist, 1, Church Street, Tuesdays, 11 a.m. to 12 noon.
- (2c) ... *Tuberculosis Officer* ... \*A. J. Williamson, D.S.O., M.A., M.D., D.P.H.  
*Dispensary* ... Colchester, St. John's Street.

\*Part-time Tuberculosis Officers.

- (3) CHELMSFORD ... *Tuberculosis Officer* ... J. D. Macfie, M.B., Ch.B.  
*Dispensaries* ... Chelmsford, General Hospital, London Road,  
 Fridays, 2 to 4 p.m.  
 Maldon, 114, High Street, Tuesdays, 10.30  
 to 11.30 a.m.
- (4) EPPING ... *Tuberculosis Officer* ... \*Charlotte Brown, L.R.C.P., L.R.C.S.,  
 L.R.F.P.S., M.D. (Brux.)  
*Sanatoria* ... Chingford and High Beech.  
*Dispensaries* ... Epping, Victoria Buildings, 2nd & 4th  
 Wednesdays each month, 10.30 to 11.30  
 a.m.  
 Waltham Abbey, 31, Greenyard, Mondays,  
 11 a.m. to 12 noon.  
 Leyton, 180, High Road, Mondays, 2.30 to  
 5.30 p.m. (Children only).
- (5) LEYTON ... *Tuberculosis Officer* ... J. Sorley, M.A., M.D., Ll.B., D.P.H.  
*Dispensaries* ... Walthamstow, 334, Hoe Street, Tuesdays,  
 10 a.m. to 12 noon, and 6 to 8 p.m.,  
 Wednesdays, 10 to 12 noon (new cases  
 only), Fridays, 10 a.m. to 12 noon  
 (Children only).  
 Leyton, 180, High Road, Thursdays, 10 a.m.  
 to 12 noon (new cases only), and 6 to  
 8 p.m., Fridays, 2 to 4 p.m.
- (6) ILFORD ... *Tuberculosis Officer* ... A. H. Jacob, L.R.C.P., L.R.C.S.  
*Sanatoria* ... Ilford and Harold Court.  
*Dispensaries* .. Ilford, 38, Oakfield Road, Tuesdays, 3 to 5  
 p.m., Fridays, 4 to 6 p.m.  
 Romford, 29, Eastern Road, Tuesdays and  
 Fridays, 9.30 a.m. to 12.30 p.m.
- (6a) BARKING ... *Tuberculosis Officer* ... \*R. J. Ewart, D.Sc., M.D., F.R.C.S.,  
 D.P.H.  
*Dispensary* ... Barking, 37, Linton Road, Mondays, 4 to 6  
 p.m., Thursdays, 10.30 a.m. to 12.30 p.m.
- (7) GRAYS ... *Tuberculosis Officer* ... \*H. E. Jones, M.R.C.S., L.R.C.P.  
*Sanatorium* ... Orsett.  
*Dispensary* ... Grays, Hildrop House, 61, London Road,  
 Mondays, 10.30 a.m. to 1.30 p.m.,  
 Thursdays, 10.30 a.m. to 1.30 p.m.
- (8) SOUTHEND ... *Tuberculosis Officer* ... \*G. N. Meachen, M.D., M.R.C.S.,  
 L.R.C.P.  
*Dispensary* ... Southend, 30, Clarence Street, Mondays,  
 Thursdays and Saturdays, 2.30 to 4.30 p.m.  
 (men, 2.30, women, 3.15), Tuesdays, 6.30 to  
 8.30 p.m. (men only), Fridays, 6.30 to 8.30  
 p.m. (women only).



## Tuberculosis Nurses.

During the year the combined nursing service was established wherever practicable, with the result that all the Health Visitors (with five exceptions in the extra-metropolitan area) in the Administrative County undertake the dual work of Tuberculosis and School Nursing, and will shortly act under the child welfare scheme. At the end of 1920, this nursing service was constituted as follows:—

### (a) Whole-time Tuberculosis Nursing Service.

Centre.	Name.	Training.
Ilford .. ..	M. Martin .. ..	General Hospital ..
Leyton .. ..	K. Whitton .. ..	do. ..
Do. .. ..	*T. Harris .. ..	Approved college course
Walthamstow ..	A. E. Brightman ..	General Hospital ..
Do. .. ..	*J. Harrison .. ..	Approved college course

\*Appointed during 1920.

### (b) Combined Nursing Service.

Braintree .. ..	Vacant .. ..	— .. —
Brentwood .. ..	D. Landon (on leave of absence) .. ..	General Hospital .. C.M.B.
Do. .. ..	*M. E. Newbegin (temporary) .. ..	do. .. do.
Bishop Stortford ..	B. A. Burnett (Mrs.) .. ..	do. ..
Clacton .. ..	†M. McLean Smith .. ..	Queen's Nurse .. do.
Colchester.. ..	M. Steele .. ..	General Hospital ..
Do. .. ..	*†L. E. Ling .. ..	do. .. C.M.B.
Do. .. ..	*†M. Kerry (Mrs.) .. ..	do. C.M.B., R.S.I.
Do. .. ..	†A. W. Sasse .. ..	Health Visitor ..
Chelmsford .. ..	E. M. Carter .. ..	do. .. C.M.B.
Do. .. ..	*M. Heslin .. ..	do. .. C.M.B.
Epping .. ..	*G. M. Cantelin (on leave of absence) .. ..	Approved college course
Grays .. ..	A. D. Wall (Mrs.) .. ..	General Hospital ..
Halstead .. ..	*E. Evans (Mrs.) .. ..	do. ..
Maldon .. ..	*A. Philpott (Mrs.) .. ..	do. .. C.M.B.
Do. (Rural) .. ..	*E. M. Bowes .. ..	do. .. do.
Orsett .. ..	*E. H. Moorman .. ..	do. ..
Rochford .. ..	*V. Walker .. ..	do. ..
Romford .. ..	A. E. Newby .. ..	do. ..
Do. .. ..	A. Taylor (Mrs.) .. ..	do. ..
Saffron Walden ..	*B. Southall (Mrs.) .. ..	do. ..
Waltham Abbey ..	*E. C. Ballard .. ..	do. .. C.M.B.
Wanstead.. ..	*J. B. Nicholson .. ..	do. ..
Woodford.. ..	E. F. Carnall .. ..	do. ..

\*Appointed during 1920.

[Part-time.

### (c) Complementary Nursing Service.

The County Council has an agreement with the County Nursing Association whereby the services of 100 District Nurse-Midwives employed by affiliated Nursing Associations can be utilised. The Health Visitor exercises general supervision but the District Nurse carries out the necessary remedial measures.

## Summary of Work.

Despite the efforts which have been made by the Tuberculosis Officers to re-establish dispensaries chiefly as consultative centres or clearing houses, there was during the year under review a large increase in the number of attendances of patients, viz., 25,774 for the year 1920, as against 22,377 for 1919. As will be seen from the following table, almost every other part of the service has been affected, increases being shown in the number of cases sent by medical men and the Military Authorities, domiciliary visits by Tuberculosis Officers and Nurses, specimens of sputa examined, and number of patients sent to sanatoria.

TABLE VIII.

Summary of Reports of District Tuberculosis Officers for the  
Year ended 31st December, 1920.

### Registered Tuberculosis Cases.

	AREAS.								TOTALS.
	1.	2.	3.	4.	5.	6.	7.	8.	
1. No. of Patients on Register, 1st January, 1920:—									
(a) Insured ... ..	11	90	56	16	101	163	66	15	851
(b) Uninsured—Adults ...	26	30	17	11	129	92	48	4	360
„ Children ... ..	22	31	30	12	226	214	66	13	617
Totals ... ..	92	154	103	42	756	469	180	32	1828
2. No. of Patients added to Register during the Year:—									
(a) Insured ... ..	46	33	36	21	210	141	39	16	545
(b) Uninsured—Adults ...	13	9	11	3	66	42	10	2	156
„ Children ... ..	20	19	9	7	78	117	16	9	275
Totals ... ..	79	64	56	31	354	300	65	27	976
3. No. of Patients removed from Register during the Year:—									
(a) Insured ... ..	42	69	44	19	268	132	32	13	619
(b) Uninsured—Adults ...	22	11	11	11	111	68	19	1	257
„ Children ... ..	9	23	16	4	109	108	59	2	330
Totals ... ..	73	106	71	34	488	308	110	16	1206
4. No. of Patients on Register, 31st December, 1920:—									
(a) Insured ... ..	48	57	48	18	313	172	73	18	77
(b) Uninsured Adults ...	17	25	17	6	81	66	39	5	259
„ Children ... ..	33	30	23	15	195	223	23	20	562
Totals ... ..	98	112	88	39	612	461	135	43	1598
5. No. of Patients on Domiciliary Treatment:—									
(a) Insured ... ..	39	35	15	22	65	104	6	18	304
(b) Uninsured—Adults ...	22	7	3	3	18	24	3	3	83
„ Children ... ..	5	3	1	3	6	11	2	3	34
Totals ... ..	66	45	19	28	89	139	11	24	421
6. No. of Patients under Observation following treatment:—									
(a) Insured ... ..	57	61	63	25	265	141	43	9	664
(b) Uninsured—Adults ...	27	11	17	5	107	54	20	1	242
„ Children ... ..	20	27	21	9	152	207	21	1	601
Totals ... ..	104	99	101	39	524	402	84	11	1507



REGISTERED TUBERCULOUS CASES--*continued.*

	AREAS.								TOTALS.
	1.	2.	3.	4.	5.	6.	7.	8.	
7. Total No. of Registered Cases under Treatment and Observation : -									
(a) Insured ... ..	144	153	126	65	675	417	122	45	1745
(b) Uninsured—Adults ...	66	43	37	14	299	144	62	9	584
" Children ...	58	60	48	27	353	441	64	21	1057
Totals ... ..	268	256	211	106	1235	1002	248	78	3386
8. No. of Patients suffering from Tuberculosis of the Lungs ...	210	229	182	91	1038	808	206	74	2852
9. No. of Patients suffering from other forms of Tuberculosis ...	28	27	29	12	197	194	42	4	531

## Contacts and Suspected Cases.

10. No. found suffering from Pulmonary Tuberculosis ... ..	25	65	33	35	267	181	42	1	649
11. No. found suffering from Non-Pulmonary Tuberculosis ...	4	23	18	5	73	52	6	—	181
12. No. found <i>not</i> suffering from Tuberculosis ... ..	13	149	126	35	237	130	32	7	729
13. No. of doubtful cases remaining under observation ... ..	1	4	4	22	34	57	12	1	135
14. Total No. of contacts and suspects examined ... ..	78	222	231	53	1000	430	97	21	2182
15. No. sent by Medical Men and Military	75	322	160	62	885	324	97	9	1874

## Dispensary Attendances, Domiciliary Visits, etc.

16. Total No. of visits to Dispensaries by patients during Year ...	1133	1922	3007	529	11388	5862	1488	445	25774
17. No. of Domiciliary visits paid by Tuberculosis Officer ...	393	487	302	166	139	165	37	119	1753
18. No. of Domiciliary visits paid by Nurse ... ..	288	1322	884	65	5184	1973	494	22	10232
19. No. of Shelters in use ... ..	25	10	10	7	4	10	11	6	93
20. Sputa examined—Positive ...	193	58	34	12	247	102	149	5	800
" Negative ... ..	257	152	179	57	932	421	152	36	2186
Totals ... ..	450	210	213	69	1179	523	301	41	2986
21. No. sent to Hospitals and Sanatoria for treatment during Year :—									
(a) County Council's Institutions ...	46	51	51	22	230	129	56	13	593
(b) Other Institutions ...	9	14	11	2	58	31	12	3	140
Totals ... ..	55	65	62	24	288	160	68	16	733

## Summary of Beds provided at Hospitals and Sanatoria.

	Males.			Females.			Children.			Total.	
	(a)	(b)		(a)	(b)		(a)	(b)		(a)	(b)
Harold Court ...	34	47	...	—	—	...	—	—	...	34	47
High Beech (non-Pulmonary) ...	—	—	...	—	—	...	31	32	...	31	32
Chingford ...	—	—	...	14	14	...	—	—	...	14	14
Orsett ...	12	12	...	—	—	...	—	—	...	12	12
Ilford ...	12	19	...	—	—	...	—	—	...	12	19
Colchester ...	12	12	...	—	—	...	—	—	...	12	12
Black Notley ...	—	—	...	34	34	...	—	—	...	34	34
Nayland ...	—	2	...	—	—	...	5	7	...	5	9
Sible Hedingham ...	—	—	...	—	—	...	18	23	...	18	23
Halstead ...	—	—	...	17	12	...	—	—	...	17	12
Other Institutions ...	2	4	...	1	2	...	8	16	...	11	22
Totals ...	72	96		66	62		62	78		200	236

These beds are allocated as follows :—

Essex Insurance Committee	66	80	...	46	50	...	—	—	...	112	130
County Council	6	16	...	20	12	...	62	78	...	88	106
Total...	72	96		66	62		62	78		200	236

(a)=No. of Beds at beginning of 1920.

(b)=No. of Beds at end of 1920.

### SUMMARY OF TABLES.

	Observation before treatment.	Cases under treatment.	Domiciliary cases.	Observation after treatment.	Totals.	Total Attendance at Dispensaries.
On 31st December, 1919 ...	491	1899	354	957	3701	22377
On 31st December, 1920 ..	135	1598	421	1367	3521	25774
Increase or Decrease during Year ..	—356	—301	+67	+410	+280	+3397

### DETAILS OF AREAS.

Area No.	Dispensaries.	Visiting Stations.
1. ...	Braintree ...	{ Halstead Dunmow Saffron Walden
2. ...	Colchester ...	{ Harwich Clacton Maldon
3. ...	Chelmsford	{ Epping Loughton Waltham Abbey
4. ...	—	—
5. ...	{ Leyton ... Walthamstow ...	—
6. ...	{ Barking ... Ilford ... Romford	—
7. ...	Grays ...	—
8. ..	Southend (For Reckford District)	—

### County Sanatoria.

Reference to the latter part of the preceding table shows that there has been a further increase in the number of beds provided at Sanatoria and Hospitals, the accommodation being augmented at the various County Sanatoria by the provision of large shelters which were withdrawn from circulation at the patients' homes, smaller ones being provided in lieu thereof. At the end of 1920 there were 236 beds as against 110 at the beginning of 1919 and 200 at the beginning of 1920. Consequently, it was possible to admit to sanatoria and hospitals 738 cases during the year or an increase of 233 above the figure for 1919. The length of stay was longer this year.

The Medical Superintendents, Matrons, Nursing and Administrative Staff, as well as the teachers at the High Beech and Sible Hedingham Sanatoria, have by their zeal and interest maintained throughout the year a comfortable and congenial atmosphere, which is so essential to the successful working of institutions of this character.

Schemes for the further enlargement and improvement of the Harold Court and Black Notley Sanatoria, at an estimated cost of £9,900 and £9,500 respectively, have been approved by the County Council and were submitted to the Ministry of Health prior to 31st October, 1920, in order to qualify for the special Government Grant. Beds at these two Institutions will thus be increased to 64 for male patients and 50 for female patients. Efforts were also made to secure a site for a Children's Sanatoria, but without success.

### **Administrative Expenses.**

The total administrative cost of the four County Sanatoria for the year ended 31st March, 1921, amounted to £13,418 and Table IX. (on page 33) gives details and shows the cost per patient per week for each Institution:

### **Dental Treatment.**

This special treatment has been given to 70 patients (60 insured and 10 uninsured) during the year, most of the work being carried out under the County Council scheme outlined in the last annual report. There were 336 extractions, 54 fillings and 173 scalings. For a short period of the year a whole-time Dentist employed by the County Education Committee undertook some of the work.

### **Extra Nourishment.**

As and from 1st June, 1920, extra nourishment was granted to 23 uninsured patients, the cost being £49 13s. 3d., and the same procedure was adopted in regard thereto as operated in respect of the insured patients. No extra nourishment was given unless the Tuberculosis Officer was satisfied that it was strictly ancillary to treatment, and that the case was a necessitous one.

### **After-Care.**

Much good work was accomplished during the year by the After-Care Associations which have been established at Chelmsford, Colchester, Malden, Barking, Ilford and Saffron Walden. The functions which were enumerated in the annual report for 1919 have been strictly adhered to, and although some of the Committees have difficulty in raising funds, they have been able to continue rendering practical help and sympathy in many cases.

TABLE IX.

Showing for each County Sanatorium number of beds, administrative expenses, and cost per week per patient, for the year ended 31st March, 1921.

(Kindly supplied by the County Accountant.)

Institution.	Kind of cases treated.	No. of beds on 31-3-21.	Average No. of		Provisions.	Medical Appliances.	Rent, Rates, Insurance, &c.	Heating, cleaning, laundry.	Necessaries.	Domestic Utensils, Furniture, &c.	Repairs and Renewals.	Postages, Travelling Expenses.	Farm Account.	Other Payments.	Total.	Cost per patient per week.	Cost per person (including staff) per week.
			Patients.	Resident Staff.													
Black Notley	Females (adults)	35	32.5	8.3	£ 1205 3	£ 71 3	£ 43 8	£ 150 3	£ 29 3	£ 33 3	£ 300 3	£ 38 3	£ ..	£ 76 3	£ 2189	£ 1 9 5	£ 1 3 5
Harold Court	Males (adults)	49	40.5	13.0	£ 2840	£ 115	£ 155	£ 648	£ 69	£ 103	£ 241	£ 59	£ 226	£ 317	£ 5885	£ 2 15 11	£ 2 2 4
High Beech ...	Children (non-pulmonary)	37	31.6	10.8	£ 737	£ 96	£ 168	£ 234	£ 48	£ 46	£ 115	£ 10	£ 315 (a)	£ 304	£ 3122	£ 1 18 0	£ 1 8 4
Sible Hedingham ...	Children (pulmonary)	31	20.9	7.8	£ 372	£ 18	£ 177	£ 158	£ 23	£ 17	£ 114	£ 30	£ 166 (a)	£ 130	£ 1922	£ 1 15 5	£ 1 5 9

(a) Education.



## PART III.

### MATERNITY AND CHILD WELFARE.

By order, dated 29th March, 1921, the Ministry of Health transferred, as from April, 1921, to the County Council, the powers under the Notification of Births Act, 1907, which had hitherto been in the hands of the following Local Sanitary Authorities:—

Municipal Boroughs.	Urban Districts.	Rural Districts.
Maldon,	Braintree,	Belchamp,
Saffron Walden.	Brentwood,	Billericay,
	Brightlingsea,	Braintree,
	Burnham-on-Crouch,	Bumpstead,
	Epping,	Dunmow,
	Frinton-on-Sea,	Epping,
	Halstead,	Halstead,
	Shoeburyness,	Ongar,
	Walton-on-the-Naze,	Rochford,
	Witham,	Saffron Walden,
	Wivenhoe,	Stansted,
		Tendring.

A Scheme is now before the Ministry of Health for carrying out the duties under the Notification of Births Act, whereby the Health Visitors undertake in their respective areas the following duties:—

- 1) School Nursing. (2) Tuberculosis Nursing. (3) Maternity & Child Welfare.

### Midwives Acts, 1902 & 1918.

During the year under review 268 midwives notified their intention to practise in the Administrative County. Of these 239 were actually in practice at the end of the year 1920. These midwives are classified as follows:—

Total No. of Midwives in practice end of year.	Dependent.	Trained Independent.	Bona-fide, including untrained and L.O.S. Certificated.
239	97	94	48

The total number of births which occurred during the year 1920 was 21,082, and these 8,114 (38·4 per cent.) were attended by midwives in the capacity of a midwife, and 2,910 (13·8 per cent.) as maternity nurses under the supervision of medical practitioners.

At the end of the year each midwife was asked to state the number of confinements which she attended as a midwife during the year 1920, and it was found that 85 trained and 19 untrained midwives attended 10 or less cases each; 42 trained



and 12 untrained attended 11-20 cases each; 24 trained and 4 untrained attended 21-40 cases each; 11 trained and 5 untrained, 41-60 cases each; 12 trained and four untrained, 61-100 cases each; and seven trained and 14 untrained midwives attended over 100 cases each. In addition, the midwives at the Leytonstone and Walthamstow Homes attended 816 cases as midwives.

The following list shows the number of notifications received from certified midwives during the year as compared with the previous year, in accordance with the rules of the Central Midwives Board:—

	1919.	1920.
Records of Medical Aid ... ..	674	1090
Records of Still-birth ... ..	83	132
Deaths of Mothers .. ...	2	1
Deaths of Infants ... ..	15	19
Artificial Feeding ... ..	41	63
Liability to be a Source of Infection ... ..	9	31
Laying-out for Burial ... ..	86	95
Ophthalmia Neonatorum or Discharging Eyes ... ..	56	85

The 1,090 cases (14 per cent.) where midwives sought the assistance of doctors were for various reasons, namely:—

Adherent Placenta ... 69 cases.	Prolonged Labour ... 172 cases.
Albuminuria ... 2 „	Presentation (various) ... 66 „
Dangerous Feebleness of Infant ... 36 „	Pyrexia (High Temp.) ... 50 „
Haemorrhage:—	Purulent Discharge ... 3 „
Ante-partum ... 17 „	Malformation of Child ... 7 „
Post-partum ... 32 „	Miscarriage, Abortion ... 26 „
Eclampsia ... 5 „	Ruptured Perineum ... 214 „
Instrumental Assistance 5 „	Still-birth ... 21 „
Premature Births ... 59 „	Syphilis ... 2 „
Phlegmasia Alba Dolens	Uterine Inertia ... 16 „
(White Leg) ... 2 „	Miscellaneous Causes ... 201 „
Ophthalmia Neonatorum or Discharging Eyes... 85	

Four hundred and fifty-four routine visits were made to midwives during the year, and with few exceptions, the mode of practice, equipment and records, etc., were found to be quite satisfactory.

Two midwives were reported to the Central Midwives Board for infringements of rules, and were subsequently kept under strict observation for six months.

## Medical Practitioners' Fees.

In accordance with the Midwives Act, 1918, the County Council paid the sum of £59 10s. as fees to medical practitioners, and recovered from parents during the year the sum of £41 1s. 9d.

## Lectures to Midwives.

An excellent syllabus of lectures was again arranged under the auspices of the Essex Midwives Association, the midwives being invited to the following Centres, at each of which six lectures were given during the winter months:—Chelmsford, Chelmsford, Leytonstone, Saffron Walden, and Southend-on-Sea.

## Essex County Nursing Association.

The arrangements with the Essex County Nursing Association proceeded on a satisfactory and harmonious basis, resulting in an increased number of District Nursing Associations and the placing of additional nurse-midwives in the rural parts of the County. By their long-sighted policy and tenacity of purpose, the Association have set up a general Nursing Service, which is efficient and tactful and without which no Public Health service can be said to be complete. There can be no doubt that this general Nursing Service is an important factor in promoting and maintaining the health of the community in this County.

On 1st September, 1920, a scheme for utilising the District Nurses employed by District Nursing Associations affiliated to the Essex County Nursing Association was commenced. Under this scheme over 100 District Nurses are rendering valuable assistance throughout the County to the whole-time Health Visitors.

The following table shows the number of District Nursing Associations which were affiliated to the County Nursing Association at the end of the year, so that, including the Metropolitan area, there were only 7 District Nursing Associations not affiliated in the County area:—

Affiliated.	No. of D.N. As.	Unaffiliated.	No. undertaking Midwifery work and District Nursing.	No. performing District Nursing duties only.
107	...	7	...	104

The following summary gives some idea of the work undertaken by the District Nurses belonging to affiliated Associations during the year 1920:—

Midwifery Visits	...	...	19,688
Maternity „	...	...	25,896
District General	...	...	101,973
„ Tuberculosis	...	...	3,540
Health Visiting	...	...	3,422
Home Visiting	...	...	181
Total No. of Visits	...	...	154,700

During the year 1920, the County Council made grants to the County Nursing Association, amounting to £5,222 5s. 11d., which sum is made up as follows:—

			£	s.	d.
(a)	Establishment of Nurse-Midwives	...	940	0	0
(b)	Emergency Nurses	...	50	0	0
(c)	District Nurse-Midwives	...	3,439	15	11
(d)	Equipping new Nurses	...	460	0	0
(e)	Clerical work, stationery, etc.	...	262	10	0
(f)	Inspection of Midwives (ceased 31st March, 1920)	... ..	70	0	0
			<hr/> £5,222 5 11 <hr/>		

### COMBINED MEDICAL SERVICES.

The Scheme for combining the medical services of the County, which was outlined in the Report for 1919, was put into operation in the areas enumerated below, and there is every reason to believe that in each case the Scheme has proved a success from the point of view of all concerned:—

Sanitary District.		Local M.O.H. and Assistant C.M.O.		Date appointed.
Lexden & Winstree	...	Dr. A. J. Williamson	...	1/4/20
Clacton-on-Sea	...	Dr. W. A. Milne	...	1/6/20
Tendring	...	Dr. J. Ramsbottom	..	11/9/20

At the time of writing, negotiations are in progress for the establishment of a similar scheme in the North Essex United Sanitary Districts, owing to the resignation of the local Medical Officer of Health in December, 1920.



TABLE 1.  
CAUSES OF DEATH—YEAR 1920.

(Figures supplied by the Registrar-General.)

SANITARY DISTRICT.	Enteric Fever.	Small-pox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Croup.	Influenza.	Erysipelas.	Pulmonary Tuberculosis.	Tuberculous Meningitis.	Other Tuberculous Diseases.	Cancer, Malignant Disease.	Rheumatic Fever.	Meningitis.	Organic Heart Disease.	Bronchitis.	Pneumonia (all forms).	Other Respiratory Diseases.	Diarrhoea, &c. (under 2 years.)	Appendicitis and Typhlitis.	Cirrhosis of Liver.	Alcoholism.	Nephritis and Bright's Disease.	Puerperal Fever.	Parturition apart from Puerperal Fever.	Congenital Debility, &c.	Violence apart from Suicide.	Suicides.	Other Definite Diseases.	Causes ill-defined or unknown.	Included in the foregoing columns.				TOTAL.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
																															Cerebro-Spinal Fever.	Polymyelitis.	Encephalitis Lethargica.	All Causes.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
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SANITARY DISTRICT.		Area (acres).		Estimated Population, 1901.		Registrar-General's Figures.		Medical Officers of Health figures.							Annual Rates per 1,000 of Estimated Population.						
				Birth-rate.	Death-rate.	Births.	Deaths at all ages.	Deaths under 1 year of age.	Under 1 year.	1 and under 2.	2 and under 5.	5 and under 15.	15 and under 25.	25 and under 45.	45 and under 65.	65 and upwards.	Total Deaths.	Birth-rate.	Zymotic Death-rate.	Phthisis Death-rate.	Respiratory Death-rate.
URBAN.																					
BARKING ...	...	3,800	35,151	1086	449	92	34	11	21	28	63	115	85	449	30.8	12.7	1.7	1.0	2.0	94.7	
BRAINTREE ...	...	2,224	6,945	149	85	5	2	3	1	2	8	24	39	84	21.4	12.2	0.1	0.5	1.2	33.5	
BRENTWOOD ...	...	460	6,277	160	82	9	1	2	5	1	6	24	34	82	23.9	13.0	0.9	0.7	1.1	60.0	
BRIGHTLINGSEA ...	...	2,867	4,908	98	58	7	1	...	...	1	4	10	35	58	18.3	11.8	0.4	0.2	0.6	77.8	
BUCKHURST HILL ...	...	873	5,274	117	46	3	2	2	...	4	10	15	10	46	22.1	8.7	0.7	0.7	0.7	25.6	
BURNHAM ...	...	4,277	3,150	70	40	7	...	2	1	...	2	5	23	40	22.2	12.7	...	0.3	1.5	100.6	
CHELMSFORD B. ...	...	3,111	21,065	451	193	25	5	2	6	4	19	44	81	193	20.8	9.0	0.1	0.3	1.4	55.4	
CHINGFORD ...	...	2,808	9,501	225	74	11	1	3	3	4	13	26	47	108	20.5	10.8	0.3	0.6	0.9	48.2	
CLACTON ...	...	4,069	10,312	212	108	8	1	5	4	4	22	68	92	446	22.1	10.3	0.6	0.7	0.9	37.7	
COLCHESTER B. ...	...	11,333	43,117 43,007	1064	446	47	8	15	22	22	68	92	132	446	22.1	10.3	0.6	0.7	0.9	44.1	
EPING ...	...	1,420	4,310	90	49	6	...	...	2	...	5	7	29	49	20.8	11.3	0.9	0.9	0.4	66.6	
FRINTON ...	...	422	2,007	23	8	...	...	...	1	...	1	1	5	8	11.4	4.0	...	0.5	0.5	...	
GRAYS ...	...	1,350	16,756	422	215	44	4	6	14	10	27	56	55	215	25.1	12.8	0.8	0.7	2.0	104.3	
HALSTEAD...	...	647	6,124	127	71	5	...	1	1	1	2	16	45	71	20.7	11.6	...	0.3	1.6	39.3	
HARVOTH B. ...	...	1,541	12,312 11,708	383	136	29	31	5	7	5	18	21	48	136	31.1	11.6	0.9	0.5	1.7	75.7	
ILFORD ...	...	8,496	82,683	1666	752	90	24	21	36	33	93	177	274	748	20.1	9.1	0.8	0.5	1.3	54.0	
LETON ...	...	2,694	128,832	3108	1330	207	31	54	72	60	158	301	447	1336	24.5	10.3	0.9	0.7	1.8	65.3	
LOUGHTON...	...	3,961	5,705	115	38	2	1	2	2	3	10	7	11	38	20.1	6.6	0.8	0.3	0.8	17.4	
MALDON B. ...	...	3,028	6,058	147	63	6	1	1	3	5	9	10	28	63	24.2	10.4	0.4	0.4	1.3	40.8	
ROMFORD ...	...	5,630	19,102	437	180	20	6	5	7	8	19	41	74	180	22.8	9.4	0.8	0.4	1.1	45.8	
SAFFRON WALDEN B. ...	...	7,502	5,695	106	67	9	1	2	...	3	5	9	39	67	18.6	11.8	0.1	0.3	0.7	84.9	
SHOEBURNESS ...	...	1,036	5,817 4,907	178	46	9	1	2	...	5	3	6	10	36	30.6	9.4	0.6	0.4	1.0	50.5	
TILBURY ...	...	1,855	7,192	273	118	22	3	...	...	12	32	23	16	118	37.9	16.4	0.5	1.2	4.3	80.6	
WALTHAM HOLY CROSS ...	...	11,017	6,813	148	70	3	2	...	2	1	7	23	29	70	21.7	10.2	0.5	0.4	1.4	20.2	
WALTHAMSTOW ...	...	4,343	132,912 132,771	3286	1305	199	27	24	56	82	176	335	395	1293	24.7	9.8	0.6	0.8	1.7	60.2	
WALTON-ON-THE-NAZE ...	...	2,046	2,874	61	30	5	...	...	...	2	5	6	12	30	21.2	10.4	...	0.3	0.1	81.9	
WANSTEAD ...	...	1,079	15,420	293	163	17	2	1	5	3	26	35	74	163	19.0	10.5	1.1	0.7	0.9	58.0	
WITHAM ...	...	3,715	3,689	85	33	4	...	1	1	1	1	8	17	33	23.6	9.1	0.8	...	1.9	47.0	
WIVENHOE ...	...	1,564	2,442	51	33	5	2	...	3	...	2	11	10	33	20.8	13.5	...	0.4	0.8	98.0	
WOODFORD ...	...	2,161	20,439	409	213	19	6	7	8	8	26	39	100	213	22.9	10.4	0.8	0.4	1.1	40.5	
TOTAL ...	...	102,082	638,303 631,628	15142	6501	924	167	181	287	309	820	1503	2283	6474	23.7	10.3	0.7	0.6	1.5	60.4	
RURAL.																					
BELCHAMP ...	...	26,500	3,933	97	60	2	1	...	1	2	5	9	39	59	24.6	15.2	0.7	1.0	1.5	20.6	
BILLERICAY ...	...	49,394	21,415 20,390	455	231	20	4	10	5	5	14	44	111	213	21.2	11.3	0.6	0.3	1.3	43.9	
BRAINTREE ...	...	62,348	17,939	386	217	25	2	4	8	...	24	42	110	217	21.4	12.0	0.2	0.5	1.3	64.7	
BUMPSTEAD ...	...	11,874	2,178	58	27	3	...	1	...	...	...	6	15	27	26.6	12.4	2.7	0.4	1.3	51.7	
CHELMSFORD ...	...	83,045	23,144	607	289	41	4	...	8	8	24	48	156	289	26.2	12.4	0.1	0.6	1.3	67.5	
DUNMOW ...	...	73,503	14,468	343	196	21	1	6	4	2	17	35	110	196	23.6	13.5	0.2	0.6	1.7	57.1	
EPING ...	...	39,055	15,617	327	146	6	2	...	7	6	13	43	70	146	20.9	9.3	0.1	0.5	1.1	18.3	
HALSTEAD...	...	38,712	9,865	174	109	6	...	2	3	6	8	19	65	109	17.7	11.1	0.1	0.7	1.2	34.5	
LEXDEN & WINSTREE...	...	69,485	18,002	422	199	15	2	2	2	2	21	39	115	189	22.6	10.6	0.3	0.3	1.0	35.5	
MALDON ...	...	82,342	15,552	346	187	18	...	...	4	2	22	32	108	187	22.2	12.0	0.3	0.5	1.2	52.0	
ONGAR ...	...	47,236	9,368	237	146	25	4	3	5	3	9	22	69	140	25.3	15.5	1.1	0.4	2.3	105.6	
ORSETT ...	...	38,084	19,736	517	255	32	4	3	14	15	26	52	98	238	29.2	11.9	0.5	0.7	2.0	61.9	
ROCHFORD...	...	55,336	10,004	461	233	28	6	8	9	8	20	51	103	233	23.5	11.8	0.8	0.6	1.3	60.8	
ROMFORD ...	...	20,720	28,251	665	242	43	7	14	7	7	25	50	92	242	23.5	8.5	0.7	0.3	1.0	64.4	
SAFFRON WALDEN ...	...	50,975	9,972	194	116	12	...	4	3	14	20	63	116	194	11.6	11.6	0.2	0.8	0.8	61.3	
STANSTED ...	...	22,354	6,647	143	62	6	1	...	1	3	5	15	31	62	22.6	9.4	0.3	0.9	0.9	40.5	
TENDRING ...	...	73,131	18,351	503	253	24	3	2	7	11	24	47	134	253	27.4	13.7	0.3	0.9	1.6	47.8	
TOTAL...	...	892,744	254,602 253,577	327	323	37	40	99	92	272	574	1489	2936	23.3	11.6	0.4	0.5	1.3	55.0		
RURAL TOTALS...																					
URBAN TOTALS																					
ADMINISTRATIVE COUNTY TOTAL																					



TABLE 3.

## NOTIFICATIONS OF INFECTIOUS DISEASE AND ATTACK-RATES, 1920.

(Figures obtained from the Weekly Notification Returns.)

Sanitary Districts.	Population (Death Rate) 1920.	Small-pox.		Scarlet Fever.		Diphtheria.		Enteric Fever.		Puerperal Fever.		Erysipelas.		Pneumonia.		Encephalitis Lethargica.	
		No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000	No.	per 1000
URBAN:—																	
Barking	35,151	...	...	77	2.1	183	5.2	4	.1	3	.03	46	1.3	133	3.7	2	.05
Braintree	6,945	...	...	13	1.8	...	...	...	...	...	...	1	.1	...	...	1	.1
Brentwood	6,277	...	...	18	2.8	23	3.6	1	.1	...	...	6	.9	2	.4	...	...
Brightlingsea	4,908	...	...	...	...	...	...	1	.2	...	...	2	.4	8	1.6	...	...
Buckhurst Hill	5,374	...	...	29	5.4	20	3.7	...	...	...	...	2	.3	7	1.3	...	...
Burnham-on-Crouch	3,150	...	...	2	.6	6	1.9	1	.3	...	...	...	...	...	...	...	...
Chelmsford B.	21,666	...	...	27	1.2	22	1.0	...	...	2	.09	1	.04	26	1.2	...	...
Chingford	9,501	...	...	51	5.3	14	1.4	...	...	1	.1	5	.5	4	.4	...	...
Clacton-on-Sea	10,312	...	...	16	1.5	23	2.2	...	...	...	...	...	...	59	1.3	...	...
Colechester B.	43,007	...	...	112	2.6	80	1.8	11	.2	4	.09	21	.4	3	.6	...	...
Epping...	4,310	...	...	...	...	27	6.2	...	...	...	...	...	...	...	...	...	...
Frinton-on-Sea	2,007	...	...	14	7.0	...	...	...	...	...	...	1	.4	...	...	...	...
Grays	16,756	12	.7	45	2.6	90	5.3	3	.1	5	.3	1	.2	7	1.1	...	...
Halstead	6,124	...	...	...	...	18	2.9	...	...	...	...	...	...	...	...	...	...
Harwich B.	11,708	1	.08	23	1.9	14	1.1	1	.08	...	...	5	.4	...	...	...	...
Ilford	82,693	1	.01	308	3.7	287	3.4	8	.09	5	.06	42	.5	74	.8	3	.04
Leyton	128,832	1	.007	441	3.4	355	2.7	5	.03	6	.04	56	.4	100	.7	1	.007
Loughton	5,705	...	...	8	1.4	27	4.7	2	.3	...	...	2	.3	9	1.4	...	...
Maldon B.	6,058	...	...	4	.6	6	.9	...	...	...	...	1	.3	7	.3	...	...
Romford	19,102	...	...	61	3.2	63	3.3	...	...	...	...	3	.5	...	...	...	...
Saffron Walden B.	5,695	...	...	6	1.0	...	...	...	...	...	...	10	.2	12	2.4	...	...
Shoburyness	4,907	...	...	23	4.6	6	1.2	7	1.4	...	...	3	.4	9	1.2	...	...
Tilbury	7,192	2	.2	12	1.6	12	1.6	...	...	...	...	3	.4	3	.4	1	.1
Waltham Holy Cross	6,813	...	...	15	2.2	34	4.9	...	...	1	.1	60	.4	95	.7	3	.02
Walthamstow	132,771	...	...	649	4.8	373	2.8	7	.05	8	.06	1	.3	...	...	...	...
Walton-on-the-Naze	2,874	...	...	3	1.0	1	.3	...	...	...	...	5	.3	...	...	1	.06
Wanstead	15,420	...	...	16	4.9	27	1.7	1	.06	...	...	1	.2	...	...	...	...
Witham	3,589	...	...	22	6.1	...	...	...	...	...	...	...	...	1	.4	...	...
Wivenhoe	2,442	...	...	2	.6	...	...	...	...	...	...	...	...	...	...	...	...
Woodford	23,439	...	...	63	3.0	...	...	1	.04	1	.04	7	.3	17	.8	...	...
URBAN TOTALS...	631,628	17	.02	2,120	3.3	1,711	2.7	53	.08	39	.06	294	.4	584	.9	13	.02
RURAL:—																	
Belchamp	3,933	...	...	2	.5	2	.5	...	...	...	...	...	...	1	.2	1	.2
Billericay	20,390	...	...	52	2.5	48	2.3	3	.1	2	.09	3	.1	17	.8	...	...
Braintree	17,999	...	...	17	.9	12	.6	2	.1	1	.05	3	.1	5	.2	1	.05
Bumpstead	2,178	...	...	4	1.8	...	...	...	...	...	...	4	.1	1	.1	...	...
Chelmsford	23,144	...	...	28	1.2	5	.2	1	.04	2	.08	4	.3	6	.4	...	...
Dunmow	14,498	...	...	40	2.7	4	.2	1	.06	1	.06	3	.1	4	.2	...	...
Epping...	15,647	...	...	30	1.9	22	1.9	...	...	...	...	2	.2	1	.1	...	...
Halstead	9,805	...	...	13	1.3	4	.4	2	.2	...	...	3	.1	...	...	...	...
Lenden and Winstree	18,602	...	...	18	.9	14	.7	...	...	...	...	8	.4	6	.3	...	...
Maldon	15,552	...	...	7	.4	7	.4	1	.06	...	...	4	.3	4	.4	...	...
Ongar	9,368	...	...	13	1.3	19	2.0	...	...	...	...	3	.2	2	.1	...	...
Orsett	19,736	7	.03	52	2.5	87	4.4	1	.05	3	.1	4	.2	16	.8	...	...
Rochford	19,604	...	...	37	1.8	12	.6	2	.1	...	...	10	.3	28	.9	...	...
Romford	28,251	7	.02	37	1.3	67	2.3	3	.01	2	.07	2	.2	...	...	...	...
Saffron Walden	9,972	...	...	8	.8	3	.3	...	...	...	...	1	.1	3	.4	...	...
Stansted	6,547	...	...	7	1.0	3	.4	1	.01	...	...	1	.1	...	...	1	.05
Tendring	18,351	...	...	19	1.0	14	.7	1	.05	1	.05	...	...	...	...	...	...
RURAL TOTALS...	253,577	14	.05	31	1.5	323	1.2	18	.07	12	.04	51	.2	95	.3	3	.01
URBAN TOTALS	631,628	17	.02	2,120	3.3	1,711	2.7	53	.08	39	.06	294	.4	584	.9	13	.02
ADMINISTRATIVE COUNTY TOTALS...	885,205	31	.03	2,504	2.8	2,034	2.2	71	.08	51	.05	345	.3	679	.7	16	.01

†The Registrar General has only supplied two population figures in a few areas which contain an appreciable non-civilian population.

<b>RURAL.</b>																	
Belchamp	26,500	3,933	97	60	2	1	...	1	...	2	5	14	...	5	59	24.6	15.2
Belchamp	49,394	21,415	455	231	20	21	4	10	4	5	8	...	...	24	111	21.2	11.3
Billericay	62,348	17,999	386	217	25	25	2	4	...	...	...	...	...	27	217	21.4	12.9
Braintree	11,874	2,178	58	27	3	3	...	2	1	...	...	...	...	6	15	26.6	12.4
Bumpstead	83,045	23,144	607	289	41	41	...	8	...	8	...	...	...	48	136	26.2	12.4
Chelmsford	73,503	14,498	343	196	21	21	1	6	...	2	...	...	...	35	110	23.6	13.5
Dunmow	39,055	15,647	327	146	6	6	...	7	...	6	...	...	...	43	146	20.9	9.3
Epping	38,712	9,805	174	109	6	6	...	3	...	3	...	...	...	19	65	17.7	11.1
Halstead	69,485	18,602	422	199	15	15	2	2	...	3	...	...	...	39	115	22.6	10.6
Lenden & Winstree	82,342	15,552	346	187	18	18	...	4	...	2	...	...	...	32	108	22.2	12.9
Maldon	47,236	9,368	237	146	25	25	4	3	...	3	...	...	...	22	69	25.3	15.5
Ongar	38,084	19,736	517	235	32	26	4	14	...	15	...	...	...	52	98	26.2	11.9
Orsett	55,386	19,604	461	233	28	28	6	9	...	8	...	...	...	51	103	23.5	11.8
Rochford	29,720	28,351	665	242	43	44	3	7	...	7	...	...	...	92	242	23.5	8.5
Romford	59,975	9,972	194	116	12	12	...	4	...	3	...	...	...	63	116	19.4	11.6
Saffron Walden	22,954	6,547	143	62	6	6	...	1	...	3	...	...	...	31	62	22.6	9.4
Stansted	73,131	18,351	503	253	24	25	3	7	...	11	...	...	...	47	134	27.4	13.7
Tendring	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
<b>TOTAL</b>	<b>892,744</b>	<b>254,602</b>	<b>5940</b>	<b>2948</b>	<b>327</b>	<b>323</b>	<b>37</b>	<b>40</b>	<b>99</b>	<b>92</b>	<b>272</b>	<b>574</b>	<b>1489</b>	<b>2926</b>	<b>9403</b>	<b>23.3</b>	<b>11.6</b>
<b>TOTAL BORO' &amp; URBAN DISTRICTS</b>	<b>102,082</b>	<b>638,393</b>	<b>631,628</b>	<b>15142</b>	<b>915</b>	<b>924</b>	<b>167</b>	<b>181</b>	<b>287</b>	<b>309</b>	<b>820</b>	<b>1503</b>	<b>2283</b>	<b>6474</b>	<b>237</b>	<b>10.3</b>	<b>6.7</b>
<b>TOTAL RURAL DISTRICTS</b>	<b>802,744</b>	<b>254,602</b>	<b>253,577</b>	<b>5940</b>	<b>327</b>	<b>323</b>	<b>37</b>	<b>40</b>	<b>99</b>	<b>92</b>	<b>272</b>	<b>574</b>	<b>1489</b>	<b>2926</b>	<b>23.3</b>	<b>11.6</b>	<b>6.4</b>
<b>TOTAL ADMINISTRATIVE COUNTY</b>	<b>904,826</b>	<b>892,995</b>	<b>885,205</b>	<b>21082</b>	<b>1242</b>	<b>1247</b>	<b>204</b>	<b>221</b>	<b>386</b>	<b>401</b>	<b>1092</b>	<b>2077</b>	<b>3772</b>	<b>9403</b>	<b>23.6</b>	<b>10.6</b>	<b>6.6</b>

